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ABSTRACT

This study was designed to determine and compare the vocational needs of junior and senior male and female teacher education students at Stout State University. It investigated 21 hypotheses as measured by the Minnesota Importance Questionnaire using a sample of 94 students. The variables on the questionnaire were recast in the form of null hypotheses for statistical testing, and a chi-squared was used on each hypothesis. The conclusions showed that both male and female subjects considered ability utilization, achievement, creativity, social service, responsibility, and advancement the most important vocational needs. Males and females differed significantly in their reaction to activity, advancement, authority, co-worker, independence, moral values, recognition, responsibility, security, social service, and social status variables. They did not differ significantly on vocational needs, ability utilization, achievement, company policies and practices, compensation, creativity, supervision and human relations, technical supervision, variety, and working conditions. It is recommended that this study be used by vocational guidance counselors, higher education instructional staff, and prospective teachers, and that further research be carried out on the variables affecting responsiveness together with a follow-up investigation. [Not available in hard copy due to marginal legibility of original document.] (MBM)

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Research Report

# ASSESSMENT OF WORK NEEDS OF PROSPECTIVE TEACHERS-IN-TRAINING BY AN ANALYSIS OF THE MINNESOTA IMPORTANCE QUESTIONNAIRE

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Douglas D. Gingrich
Wisconsin State University
Menomonie, Wisconsin

1969

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U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

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# CHAPTER I

## INTRODUCTION

Work as a prominent feature in human lives has long attracted the interest of researchers; however, the fundamental question about what makes a satisfied worker has largely gone unanswered. It was believed by the researchers of this paper that vocational needs were involved in determining worker satisfaction, and that investigation and understanding of these vocational needs could contribute much to the field of vocational counseling.

Kinnane has pointed out the fact that vocational psychologists are reluctant to generalize research findings from male to female workers because of basic psychological differences. This lack, he believed, has resulted in little knowledge about such things as the patterning of women's work values at various points in maturation and learning, and in little knowledge about "the essential differences between male and female work-value orientations."[1] The instrument used by the researchers of this study was one of the few instruments available that was adaptable to measurement of both male and female work needs or values; and that

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[1] John F. Kinnane and Sr. M. Margaret Bannon, "Perceived Parental Influence and Work-Value Orientation," Personnel and Guidance Journal, XLIII (November, 1964), 273.

was directly concerned with the differences, as referred to by Kinnane, in what was felt to be an important maturation and learning phase in the life of the subjects involved in this study.

## I. THE PROBLEM

Statement of the problem. It was the purpose of this study (1) to determine the vocational needs of Stout State University juniors and seniors, as prospective teachers-in-training; (2) to determine the vocational needs of male and female Stout State University teachers-in-training; and (3) to compare the vocational needs of male and female Stout State University juniors and seniors as prospective teachers. It was not within the scope of this paper to be concerned with why these differences, if any, existed or what effect, if any, these differences might have.

The major hypothesis for the study was that there was no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning vocational needs as measured by the Minnesota Importance Questionnaire. Minor hypotheses tested were that male and female Stout State University prospective teachers would not differ significantly on the

following variables of the Minnesota Importance Questionnaire:[2]

1. Ability Utilization
2. Achievement
3. Activity
4. Advancement
5. Authority
6. Company Policies and Practices
7. Compensation
8. Co-workers
9. Creativity
10. Independence
11. Moral Values
12. Recognition
13. Responsibility
14. Security
15. Social Service
16. Social Status
17. Supervision--Human Relations
18. Supervision--Technical
19. Variety
20. Working Conditions

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[2]David J. Weiss, Rene V. Dawis, and Lloyd H. Lofquist, "Counselors Manual for the Minnesota Importance Questionnaire (1967 Revision)" (Minneapolis: Work Adjustment Project, University of Minnesota, 1968), pp. 4-5.

The alternate hypotheses were that there were significant differences for the above comparisons.

Importance of the study. The rapid development of technology and social change are abolishing the traditional differentiation between male and female occupational choices. Keyserling noted that in 1965 68 per cent of female college graduates were employed, and he further predicted that by 1980 75 per cent of the college-educated women will be working.[3] Despite this predicted increase, the choice of an occupational career will still be a difficult one for women, as well as for men, for while Title VII of the Civil Rights Act declares them equal, biology proclaims differently. Similarily, Elton and Rose noted this discrepancy between what is and what should be and stated that a counselor limits his effectiveness if he links a woman's vocational choice to her sex role in the traditional manner.[4] It is believed by many authors that an effective counselor should be concerned with both the abilities and the needs of his client, whether male or female. It is an assumption of educators at Stout State University that upon completion of the teacher-training programs the population studied will

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[3]Charles F. Elton and Harriett A. Rose, "Significance of Personality in the Vocational Choice of College Women," Journal of Counseling Psychology, XIV (July, 1967), 293.

[4]Ibid.

possess the ability to teach. Therefore, the importance of this study was to ascertain the work-needs of teachers-in-training which can be utilized by: (1) the higher education instructional staff, (2) the teachers-in-training themselves, and (3) the vocational guidance counselors.

Definition of Terms Used. Reinforcer systems or reinforcing conditions. The theory on which the Minnesota Importance Questionnaire was based described these as the stimulus conditions that were available within the work environment for the satisfaction of workers' needs.[5]

Satisfactoriness or satisfaction. These were observed work adjustment outcomes which resulted from correspondence between the work personality and the work environment.[6] Satisfactoriness was defined as the employer's view that his workers were performing their jobs adequately. Satisfaction was seen as the employer's feeling of positive regard toward his position.

Teachers-in-training or prospective teachers-in-training. Throughout the study these two terms were used to describe juniors and seniors who had declared a major in

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[5]Fred H. Borgen, et al., Occupational Reinforcer Patterns. Minnesota Studies in Vocational Rehabilitation, XXIV (Minneapolis: Work Adjustment Project, University of Minnesota, 1968), p. 1.

[6]Ibid., p. v.

education and who were enrolled in an Introduction to Guidance class at the time of testing.

Vocational needs. The Minnesota Importance Questionnaire defined vocational needs as "the individual's preference for reinforcing conditions in jobs". This instrument was designed to measure twenty "vocationally-relevant need dimensions". The authors illustrated each of the twenty dimensions with a statement they found to be most closely related to the total scale score on the 1966 versions of the Minnesota Importance Questionnaire. The item used to represent each of the twenty dimensions was as follows:

1. Ability Utilization: I could do something that makes use of my abilities.
2. Achievement: The job could give me a feeling of accomplishment.
3. Activity: I could be busy all the time.
4. Advancement: The job would provide an opportunity for advancement.
5. Authority: I could tell people what to do.
6. Company Policies and Practices: The company would administer its policies fairly.
7. Compensation: My pay would compare well with that of other workers.
8. Co-workers: My co-workers would be easy to make friends with.

9. Creativity: I could try out some of my own ideas.

10. Independence: I could work alone on the job.

11. Moral Values: I could do the work without feeling that it is morally wrong.

12. Recognition: I could get recognition for the work I do.

13. Responsibility: I could make decisions on my own.

14. Security: The job would provide for steady employment.

15. Social Service: I could do things for other people.

16. Social Status: I could be "somebody" in the community.

17. Supervision--Human Relations: My boss would back up his men (with top management).

18. Supervision--Technical: My boss would train his men well.

19. Variety: I could do something different every day.

20. Working Conditions: The job would have good working conditions.[7]

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[7]Weiss, Dawis, Lofquist, loc. cit.

Work adjustment. This was predicted by matching an individual's work personality with work environments. Work adjustment, in other words, depended on how well an individual's abilities corresponded to the ability requirements in work, and how well his needs corresponded to the reinforcers available in the work environment.[8]

Work values or occupational values. People hold certain beliefs or ideas toward and about work that express the judgments they have regarding the relative worth or the importance of the variables involved in choosing and maintaining an occupation. Like vocational needs, work values involve an individual's preference for reinforcing conditions in occupations.

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[8] Borgen, et al., loc. cit.

# CHAPTER II

## METHODS AND PROCEDURES

Chapter three is organized in the following manner: first a description of the population used in the study is presented; second, the instrument employed is discussed; and third, the research procedures are explained.

### POPULATION OF THE STUDY

The population of this study consisted of ninety-four prospective teachers attending Stout State University at Menomonie, Wisconsin. These students were members of An Introduction to Guidance classes, a course for education students, during the third quarter of the 1968-69 school year.

The population consisted of 45 males and 49 females. The majority of the prospective teachers were in the 20 to 24 age group. In this group there were 39 males and 45 females. Nine per cent of the prospective teachers were in the 25 to 29 age group. The complete age distribution is illustrated in Table I.

Out of a total of 45 males and 49 females sampled, 64 per cent of the males and 61 per cent of the females were from hometowns with a population of less than 10,000. Twelve of the males and 12 of the females came from hometowns

in the 10,000 to 49,999 range. Two per cent of the males and 4 per cent of the females came from hometowns of 50,000

TABLE I

AGE DISTRIBUTION OF PROSPECTIVE TEACHERS' SAMPLED

| Age | Males | Per Cent of Males | Females | Per Cent of Females | Total | Per Cent of Total |
|---|---|---|---|---|---|---|
| Below 20 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-24 | 39 | 87 | 45 | 92 | 84 | 89 |
| 25-29 | 5 | 11 | 4 | 8 | 9 | 10 |
| 30 and older | 1 | 2 | 0 | 0 | 1 | 1 |
| Total | 45 | 100 | 49 | 100 | 94 | 100 |

to 99,999. Table II further portrays the population of the prospective teachers' nometowns.

Twenty-eight per cent of the prospective teachers sampled were in the top quarter of their graduating class from high school. The registrar's office did not have the high school rank of 8 males and 5 females. Twenty-eight males and 23 females were in the middle 50 per cent of their graduating class. In Table III a complete breakdown of high school rank is given.

Table IV depicts the grade point average of prospective teachers' sampled. Included in the sample were a wide

range of averages. Twenty-one males and 15 females had a

TABLE II

POPULATION OF PROSPECTIVE TEACHERS' HOMETOWNS

| Population of Hometowns | Males | Per Cent of Males | Females | Per Cent of Females | Total | Per Cent of Total |
|---|---|---|---|---|---|---|
| Under 10,000 | 29 | 64 | 30 | 61 | 59 | 63 |
| 10,000-49,999 | 12 | 27 | 12 | 26 | 24 | 26 |
| 50,000-99,999 | 1 | 2 | 2 | 4 | 3 | 3 |
| 100,000 and larger | 3 | 7 | 5 | 10 | 8 | [illegible] |
| Total | 45 | 100 | 49 | 101* | 94 | 101* |

*Percentages were rounded off causing the discrepancies.

TABLE III

HIGH SCHOOL RANK OF PROSPECTIVE TEACHERS' SAMPLED

| Percentage Rank | Males | Per Cent of Males | Females | Per Cent of Females | Total | Per Cent of Total |
|---|---|---|---|---|---|---|
| Top 25 per cent | 7 | 16 | 19 | 39 | 26 | [illegible] |
| Middle 50 per cent | 28 | 62 | 23 | 47 | 51 | 54 |
| Bottom 25 per cent | 2 | 4 | 2 | 4 | 4 | [illegible] |
| Information unavailable | 8 | 18 | 5 | 10 | 13 | [illegible] |
| Total | 45 | 100 | 49 | 100 | 94 | 100 |

2.00 to 2.49 grade point average. Thirty-six per cent of the prospective teachers had a grade point below 2.50. Twenty-two subjects had a grade point of 3.00 or better, 72 did not.

TABLE IV

GRADE POINT AVERAGES OF PROSPECTIVE TEACHERS' SAMPLED

| Grade Point Average* | Males | Per Cent of Males | Females | Per Cent of Females | Total | Per Cent of Total |
|---|---|---|---|---|---|---|
| Under 2.00 | 1 | 2 | 1 | 2 | 2 | 2 |
| 2.00-2.49 | 17 | 38 | 17 | 33 | 34 | 36 |
| 2.50-2.99 | 21 | 47 | 15 | 31 | 36 | 38 |
| 3.00-3.49 | 6 | 13 | 13 | 27 | 19 | 21 |
| 3.50 and over | 0 | 0 | 3 | 6 | 3 | 3 |
| Total | 45 | 100 | 49 | 99** | 94 | 100 |

*Grade Point is computed on a 4.00 scale.
**Percentages were rounded off causing the discrepancies.

INSTRUMENT USED IN STUDY

The Minnesota Importance Questionnaire was designed within the framework of the Theory of Work Adjustments to measure the individual's vocational needs. This theory was devised by Dawis, Lofquist, and Weiss.[1] Twenty

[1]Rene V. Dawis, Lloyd H. Lofquist, and David J.

vocationally-relevant need dimensions are measured by the Minnesota Importance Questionnaire. The questionnaire authors used a method of pair comparison in Items 1 to 190. For these items, each of the twenty vocationally-relevant statements is paired with every other vocationally-relevant statement to produce the one hundred ninety pairs. The order of pair presentation is randomized to control for response sets. The testee is asked to choose the one statement of the pair which is more important to him on his ideal job. The twenty statements are listed separately for items 191 to 210. The testee decides whether the statement is important or not important in his ideal job.[2]

The next paragraphs will explain the Theory of Work Adjustment. This theory assumed that an individual had a set of response potentials which reacted when and where his environment allowed and/or stimulated a response. As the individual responded, the act of responding became associated with environmental conditions. These conditions would reinforce and maintain the response.

Responses used by an individual most frequently over a period of time became identified as a set of abilities.

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Weiss, A Theory of Work Adjustment (A Revision), (Minneapolis: Work Adjustment Project, University of Minnesota, 1968), pp. 1-9.

[2]Weiss, op. cit., pp. 1-8

Similarily, reinforces in the environment that occurred most frequently became identified as needs. The Theory of Work Adjustment felt that the combination of these abilities and needs made up the start of an individual's work personality.

As the individual matured, his abilities and needs underwent change. Eventually, they crystallized. When this happened, the individual was said to have a stable work personality.

Dawis et al defined work adjustment as a process by which the individual interacts and comes to grips with his work environment. Satisfactoriness and satisfaction were seen as the results of the work adjustment process. Work adjustment was also determined by the correspondence between abilities and ability requirement, and by the correspondence between reinforcer systems and needs.[3]

Dawis, Lofquist, and Weiss operationally defined the Theory of Work Adjustment in nine propositions:

> Proposition I. An individual's work adjustment at any point in time is indicated by his concurrent levels of satisfactoriness and satisfaction.
>
> Proposition II. Satisfactoriness is a function of the correspondence between an individual's abilities and the ability requirements of the work environment, provided that the individual's needs correspond with the reinforcer system of the work environment.

---

[3]Dawis, Lofquist, and Weiss, loc. cit., pp. 1-9.

Corollary IIa. Knowledge of an individual's abilities and of his satisfactoriness permits the determination of the effective ability requirements of the work environment.

Corollary IIb. Knowledge of the ability requirements of the work environment and of an individual's satisfactoriness permits the inference of an individual's abilities.

Proposition III. Satisfaction is a function of the correspondence between the reinforcer system of the work environment and the individual's needs, provided that the individual's abilities correspond with the ability requirements of the work environment.

Corollary IIIa. Knowledge of an individual's needs and of his satisfaction permits the determination of the effective reinforcer system of the work environment for the individual.

Corollary IIIb. Knowledge of the reinforcer system of the work environment and of an individual's satisfaction permits the inference of an individual's needs.

Proposition IV. Satisfaction moderates the functional relationship between satisfactoriness and ability-requirement correspondence.

Proposition V. Satisfactoriness moderates the functional relationship between satisfaction and need-reinforcer correspondence.

Proposition VI. The probability of an individual being forced out of the work environment is inversely related to his satisfaction.

Proposition VII. The probability of an individual voluntarily leaving the work environment is inversely related to his satisfaction.

Combining Propositions VI and VII, we have:

Proposition VIII. Tenure is a joint function of satisfactoriness and satisfaction.

Given Propositions II, III, and VIII, this corollary follows:

Corollary VIIIa. Tenure is a function of ability-requirement and need reinforcer correspondence.

Proposition IX. Work personality-work environment correspondence increases as a function of tenure.[4]

## COLLECTION OF DATA

Background data on the population used in this study were obtained from the Stout State University registrar's office. Vocational needs were assessed by responses made by the prospective teachers on the Minnesota Importance Questionnaire. The questionnaire was administered during Introduction to Guidance classes at Stout State University during the third quarter of the 1968-69 school year. This was a required course for junior and senior education students. The directions given in the manual were closely followed. No administrative problems were encountered. A copy of the Minnesota Importance Questionnaire can be found in Appendix A.

## ANALYSIS OF DATA

The vocational needs signified by the Minnesota Importance Questionnaire were placed in rank order. Rank order was determined by the number of times the work need

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[4]Dawis, Lofquist, and Weiss, op. cit., pp. 9-11.

was selected as important on the Minnesota Importance Questionnaire. Rank order was given for (1) Stout State University prospective teachers-in-training, (2) male teachers-in-training, and (3) female teachers-in-training.

Twenty hypotheses were tested to show significant differences between various factors in the sample. Since the data were not normally distributed, each null hypothesis was tested using a chi-square to determine significant differences. Each hypothesis was tested at the 0.05 level of significance.[5]

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[5]E. Wayne Courtney and Lorry Sedgwick, Elements of Research Foundations, Instructional Package #0320, "Reading Student's "t" Table," (unpublished materials, Stout State University, Menomonie, Wisconsin, 1969), p. 7.

CHAPTER III.

# FINDINGS

Data are presented in this chapter in the following order: (1) ranking of the vocational needs of Stout State University juniors and seniors, as prospective teachers-in-training; (2) ranking of male prospective teachers' vocational needs; (3) ranking of female prospective teachers' vocational needs; and (4) a comparison of the vocational needs of male and female Stout State University juniors and seniors, as measured by the Minnesota Importance Questionnaire.

Ability utilization, achievement, creativity, social service, responsibility, and advancement were selected as the most important vocational needs, as measured by the Minnesota Importance Questionnaire, of Stout State University teachers-in-training. Signified as least important were the following variables: supervision--technical, activity, independence, social status, and authority. The ranking of prospective teachers' vocational needs are reported in Table V.

There were 699 responses indicating a need for achievement by male prospective teachers-in-training. Ability utilization, creativity, advancement, and social service were the other important vocational needs selected. Analysis of Table VI shows that supervision--technical,

TABLE V

NUMBER OF RESPONSES SIGNIFYING NEED AND RANK ORDER OF PROSPECTIVE TEACHERS' VOCATIONAL NEEDS AS MEASURED BY THE MINNESOTA IMPORTANCE QUESTIONNAIRE

| Vocational Need | Responces Signifying Need | Rank Order |
|---|---|---|
| Ability Utilization | 1490 | 1 |
| Achievement | 1479 | 2 |
| Creativity | 1403 | 3 |
| Social Service | 1371 | 4 |
| Responsibility | 1280 | 5 |
| Advancement | 1200 | 6 |
| Co-workers | 1058 | 7 |
| Moral Values | 1041 | 8 |
| Company Policies and Practices | 996 | 9 |
| Working Conditions | 976 | 10 |
| Variety | 954 | 11 |
| Security | 940 | 12 |
| Supervision-Human Relations | 874 | 13 |
| Recognition | 860 | 14 |
| Compensation | 823 | 15 |
| Supervision-Technical | 687 | 16 |
| Activity | 576 | 17 |
| Independence | 506 | 18 |
| Social Status | 430 | 19 |
| Authority | 406 | 20 |

TABLE VI

NUMBER OF RESPONSES SIGNIFYING NEED AND RANK ORDER OF MALE PROSPECTIVE TEACHERS' VOCATIONAL NEEDS AS MEASURED BY THE MINNESOTA IMPORTANCE QUESTIONNAIRE

| Vocational Need | Responces Signifying Need | Rank Order |
|---|---|---|
| Achievement | 699 | 1 |
| Ability Utilization | 697 | 2 |
| Creativity | 654 | 3 |
| Advancement | 622 | 4 |
| Social Service | 608 | 5 |
| Responsibility | 579 | 6 |
| Security | 498 | 7 |
| Company Policies and Practice | 470 | 8 |
| Moral Values | 469 | 9 |
| Co-workers | 468 | 10 |
| Working Conditions | 463 | 11 |
| Variety | 454 | 12 |
| Recognition | 435 | 13 |
| Supervision-Human Relations | 428 | 14 |
| Compensation | 411 | 15 |
| Supervision-Technical | 325 | 16 |
| Authority | 270 | 17.5 |
| Social Status | 270 | 17.5 |
| Activity | 250 | 19 |
| Independence | 196 | 20 |

authority, social status, activity, and independence were least important.

Stout State University female teachers-in-training indicated that ability utilization, achievement, social service, creativity, and responsibility, as measured by the Minnesota Importance Questionnaire, were the vocational needs with which they were most concerned. Supervision--technical, activity, independence, social status, and authority were of least importance. Table VII shows the number of responses signifying need and rank order of female prospective teachers' vocational needs.

Hypothesis 1. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning vocational needs, as measured by the Minnesota Importance Questionnaire. Eleven of the twenty Minnesota Importance Questionnaire variables showed a significant difference between male and female prospective teachers-in-training. Activity, advancement, authority, co-workers, independence, moral values, recognition, responsibility, security, social service, and social status differed significantly. The following vocational needs were found to be significantly more important to males than females: advancement, authority, recognition, security, and social status. Activity, co-workers, independence, moral values, responsibility and

TABLE VII

NUMBER OF RESPONSES SIGNIFYING NEED AND RANK ORDER OF FEMALE PROSPECTIVE TEACHERS' VOCATIONAL NEEDS AS MEASURED BY THE MINNESOTA IMPORTANCE QUESTIONNAIRE

| Vocational Need | Responces Signifying Need | Rank Order |
|---|---|---|
| Ability Utilization | 793 | 1 |
| Achievement | 780 | 2 |
| Social Service | 763 | 3 |
| Creativity | 749 | 4 |
| Responsibility | 701 | 5 |
| Co-workers | 590 | 6 |
| Advancement | 578 | 7 |
| Moral Values | 572 | 8 |
| Company Policies and Practice | 526 | 9 |
| Working Conditions | 513 | 10 |
| Variety | 500 | 11 |
| Supervision-Human Relation | 446 | 12 |
| Security | 442 | 13 |
| Recognition | 425 | 14 |
| Compensation | 412 | 15 |
| Supervision-Technical | 362 | 16 |
| Activity | 326 | 17 |
| Independence | 310 | 18 |
| Social Status | 160 | 19 |
| Authority | 136 | 20 |

social service were found to be significantly more important to females than males.

Hypothesis 2. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the ability utilization variable of the Minnesota Importance Questionnaire. A chi-square was used to test the significant differences. The null hypothesis of no significant difference was retained as shown in Table VIII. Male and female Stout State University prospective teachers did not differ significantly on the ability utilization variable of the Minnesota Importance Questionnaire.

TABLE VIII

SEX AND ABILITY UTILIZATION: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 697 | 199 |
| Females | 793 | 186 |
| Total | 1490 | 385 |

$X^2 = 2.955$; $P \leq .05$, $X^2$. 3.84; df = 1

Chi-square probability 0.081931

Hypothesis 3. There is no significant difference between male Stout State University prospective teachers and

female Stout State University prospective teachers concerning the achievement variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was retained as shown in Table IX. Male and female Stout State University prospective teachers did not differ significantly on the achievement variable of the Minnesota Importance Questionnaire.

TABLE IX

SEX AND ACHIEVEMENT: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 699 | 197 |
| Females | 780 | 198 |
| Total | 1479 | 395 |

$X^2 = 0.852$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.641165

Hypothesis 4. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the activity variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference

was rejected as shown in Table X. Male and female Stout State University prospective teachers did differ significantly on the activity variable of the Minnesota Importance Questionnaire. Females saw this vocational need as being more important to their future occupation than did males.

TABLE X

SEX AND ACTIVITY: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 250 | 644 |
| Females | 326 | 652 |
| Total | 576 | 1296 |

$X^2 = 6.320$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.011661

Hypothesis 5. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the advancement variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XI. Male and female Stout State University prospective teachers did differ significantly on the advancement variable of the

Minnesota Importance Questionnaire. Males saw this vocational need as being more important to their future occupation than did females.

TABLE XI

SEX AND ADVANCEMENT: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 622 | 277 |
| Females | 578 | 401 |
| Total | 1200 | 678 |

$X^2 = 20.921$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.000053

Hypothesis 6. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the authority variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XII. Male and female Stout State University prospective teachers did differ significantly on the authority variable of the Minnesota Importance Questionnaire. Males saw this

vocational need as being more important to their future than did females.

TABLE XII

SEX AND AUTHORITY: OBSERVED FREQUENCIFS FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 270 | 628 |
| Females | 136 | 843 |
| Total | 406 | 1471 |

$X^2 = 72.289$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.000000

Hypothesis 7. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the company policies and practices variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was retained as shown in Table XIII. Male and female Stout State University prospective teachers did not differ significantly on the company policies and practices variable of the Minnesota Importance Questionnaire.

Hypothesis 8. There is no significant difference between male Stout State University prospective teachers and

TABLE XIII

SEX AND COMPANY POLICIES AND PRACTICES: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 470 | 425 |
| Females | 526 | 454 |
| Total | 996 | 879 |

$X^2 = 0.335$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.569893

female Stout State University prospective teachers concerning the compensation variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was retained as shown in Table XIV. Male and female Stout State University prospective teachers did not differ significantly on the compensation variable of the Minnesota Importance Questionnaire.

Hypothesis 9. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the co-worker variable of the Minnesota Importance

Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant

TABLE XIV

SEX AND COMPENSATION: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 411 | 486 |
| Females | 412 | 567 |
| Total | 823 | 1053 |

$X^2 = 2.652$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.099560

difference was rejected as shown in Table XV. Male and female Stout State University prospective teachers did differ significantly on the co-worker variable of the Minnesota Importance Questionnaire. Females saw this vocational need as being more important to their future occupations than did males.

Hypothesis 10. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the creativity variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference

was retained as shown in Table XVI. Male and female Stout State University prospective teachers did not differ

TABLE XV

SEX AND CO-WORKERS: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 468 | 431 |
| Females | 590 | 388 |
| Total | 1058 | 819 |

$X^2 = 13.023$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.000610

significantly on the creativity variable of the Minnesota Importance Questionnaire.

TABLE XVI

SEX AND CREATIVITY: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 654 | 242 |
| Females | 749 | 230 |
| Total | 1403 | 472 |

$X^2 = 3.069$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.076223

Hypothesis 11. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the independence variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XVII. Male and female Stout State University prospective teachers did differ significantly on the independence variable of the Minnesota Importance Questionnaire. Females saw this vocational need as being more important to their future occupations than did males.

TABLE XVII

SEX AND INDEPENDENCE: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 196 | 703 |
| Females | 310 | 666 |
| Total | 506 | 1369 |

$X^2 = 23.561$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.000028

Hypothesis 12. There is no significant difference between male Stout State University prospective teachers

and female Stout State University prospective teachers concerning the moral values variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XVIII. Male and female Stout State University prospective teachers did differ significantly on the moral values variable of the Minnesota Importance Questionnaire. Females saw this vocational need as being more important to their future occupation than did males.

TABLE XVIII

SEX AND MORAL VALUES: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 469 | 428 |
| Females | 572 | 408 |
| Total | 1041 | 836 |

$X^2$ 7.013; $P \leq .05$, $X^2 \geq 3.84$; df = 1

Chi-square probability 0.008155

Hypothesis 13. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the recognition variable of the Minnesota Importance

Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XIX. Male and female Stout State University prospective teachers did differ significantly on the recognition variable of the Minnesota Importance Questionnaire. Males saw this need as being more important to their future occupations than did females.

TABLE XIX

SEX AND RECOGNITIONS: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 435 | 465 |
| Females | 425 | 552 |
| Total | 860 | 1017 |

$X^2 = 4.407$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.033775

Hypothesis 14. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the responsibility variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant

difference was rejected as shown in Table XX. Male and female Stout State University prospective teachers did differ significantly on the responsibility variable of the Minnesota Importance Questionnaire. Females saw this vocational need as being more important to their future occupations than did males.

TABLE XX

SEX AND RESPONSIBILITY: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 479 | 321 |
| Females | 701 | 279 |
| Total | 1280 | 600 |

$X^2 = 11.184$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.001237

Hypothesis 15. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the security variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XXI. Male and female Stout State University prospective teachers did

differ significantly on the security variable of the Minnesota Importance Questionnaire. Males saw this vocational need as being more important to their future occupation than did females.

TABLE XXI

SEX AND SECURITY: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 498 | 401 |
| Females | 442 | 534 |
| Total | 940 | 935 |

$X^2 = 19.125$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.000087

Hypothesis 16. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the social service variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XII. Male and female Stout State University prospective teachers did differ significantly on the social service variable of the Minnesota Importance Questionnaire. Females saw this

vocational need as being more important to their future occupations than did males.

TABLE XXII

SEX AND SOCIAL SERVICE: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 608 | 292 |
| Females | 763 | 214 |
| Total | 1371 | 506 |

$X^2 = 26.433$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.000014

Hypothesis 17. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the social status variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was rejected as shown in Table XXIII. Male and female Stout State University prospective teachers did differ significantly on the social status variable of the Minnesota Importance Questionnaire. Males saw this vocational need as being more important to their future occupations than did females.

Hypothesis 18. There is no significant difference between male Stout State University prospective teachers and

TABLE XXIII

SEX AND SOCIAL STATUS: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 270 | 629 |
| Females | 160 | 814 |
| Total | 430 | 1443 |

$X^2 = 48.932$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.000000

female Stout State University prospective teachers concerning the supervision-human relations variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was retained as shown in Table XXIV. Male and female Stout State University prospective teachers did not differ significantly on the supervision-human relations variable of the Minnesota Importance Questionnaire.

Hypothesis 19. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the supervision-technical variable of the Minnesota

Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no

TABLE XXIV

SEX AND SUPERVISION-HUMAN RELATIONS: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 428 | 472 |
| Females | 446 | 534 |
| Total | 874 | 1006 |

$X^2 = 0.788$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.621755

significant difference was retained as shown in Table XXV. Male and female Stout State University prospective teachers

TABLE XXV

SEX AND SUPERVISION-TECHNICAL: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 325 | 574 |
| Females | 362 | 616 |
| Total | 687 | 1190 |

$X^2 = 0.150$; $P \leq .05$, $X^2 > 3.84$; df = 1

Chi-square probability 0.700498

did not differ significantly on the supervision-technical variable of the Minnesota Importance Questionnaire.

Hypothesis 20. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the variety variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was retained as shown in Table XXVI. Male and female Stout State University prospective teachers did not differ significantly on the variety variable of the Minnesota Importance Questionnaire.

TABLE XXVI

SEX AND VARIETY: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 454 | 442 |
| Females | 500 | 480 |
| Total | 954 | 922 |

$X^2 = 0.023$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.874030

Hypothesis 21. There is no significant difference between male Stout State University prospective teachers and

female Stout State University prospective teachers concerning the working conditions variable of the Minnesota Importance Questionnaire. A chi-square was used to test for significant differences. The null hypothesis of no significant difference was retained as shown in Table XXVII. Male and female Stout State University prospective teachers did not differ significantly on the working conditions variable of the Minnesota Importance Questionnaire.

TABLE XXVII

SEX AND WORKING CONDITION: OBSERVED FREQUENCIES FOR A CHI-SQUARE TEST

| Sex | Selected as Important | |
|---|---|---|
| | Yes | No |
| Males | 463 | 434 |
| Females | 513 | 467 |
| Total | 976 | 901 |

$X^2 = 0.100$; $P \leq .05$, $X^2 = 3.84$; df = 1

Chi-square probability 0.750417

# CHAPTER IV.

## SUMMARY, CONCLUSIONS, AND DISCUSSION

### Summary

It was the purpose of this study (1) to determine the vocational needs of Stout State University juniors and seniors, as prospective teachers-in-training; (2) to determine the vocational needs of male and female Stout State University teachers-in-training; and (3) to compare the vocational needs of male and female Stout State University juniors and seniors as prospective teachers. The study investigated the following hypotheses:

1. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning vocational needs as measured by the Minnesota Importance Questionnaire.
2. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the ability utilization variable of the Minnesota Importance Questionnaire.
3. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the

achievement variable of the Minnesota Importance Questionnaire.

4. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the activity variable of the Minnesota Importance Questionnaire.

5. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the advancement variable of the Minnesota Importance Questionnaire.

6. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the authority variable of the Minnesota Importance Questionnaire.

7. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the company policies and practices variable of the Minnesota Importance Questionnaire.

8. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the

compensation variable of the Minnesota Importance Questionnaire.

9. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the co-workers variable of the Minnesota Importance Questionnaire.

10. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the creativity variable of the Minnesota Importance Questionnaire.

11. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the independence variable of the Minnesota Importance Questionnaire.

12. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the moral values variable of the Minnesota Importance Questionnaire.

13. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the

recognition variable of the Minnesota Importance Questionnaire.

14. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the responsibility variable of the Minnesota Importance Questionnaire.

15. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the security variable of the Minnesota Importance Questionnaire.

16. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the social service variable of the Minnesota Importance Questionnaire.

17. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the social status variable of the Minnesota Importance Questionnaire.

18. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the

supervision-human relations variable of the Minnesota Importance Questionnaire.

19. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the supervision-technical variable of the Minnesota Importance Questionnaire.

20. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the variety variable of the Minnesota Importance Questionnaire.

21. There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning the working conditions variable of the Minnesota Importance Questionnaire.

The review of literature has shown that vocational needs can not be omitted from discussions of vocational choice and vocational satisfaction. Although the authors, of the theories and studies reviewed in Chapter II, did not completely concur on what stages of development work needs were most important or exactly how much emphasis they should receive, all agreed that work needs must not be overlooked as determinants of vocational choice and vocational satisfaction.

The population of this study consisted of a selected sample of ninety-four prospective teachers attending Stout State University at Menomonie, Wisconsin. These students were members of Introduction to Guidance Classes, a required course for education students, during the third quarter of the 1968-69 school year. The data used in the study was obtained from the Stout State University registrar's office and the Minnesota Importance Questionnaire. The variables on the Minnesota Importance Questionnaire were recast in the form of null hypotheses for statistical testing. A chi-square was used to test for significant difference on each hypothesis.

The findings of the investigation were as follows:

1. Ability utilization, achievement, creativity, social service, responsibility, and advancement were seen as being the most important vocational needs, as measured by the Minnesota Importance Questionnaire, of Stout State University Teachers-in-training.
2. Achievement, ability utilization, creativity, advancement, and social service were the vocational needs, as measured by the Minnesota Importance Questionnaire, the Stout State University male teachers-in-training saw as being most important to them. Stout State University female teachers-in-training indicated that ability utilization, achievement, social service,

creativity, and responsibility, as measured by the Minnesota Importance Questionnaire, were the vocational needs with which they were most concerned.

3. Eleven of the twenty Minnesota Importance Questionnaire variables showed a significant difference between male and female prospective teachers-in-training. The chi-square test of independence was utilized to test for relationships of questionnaire responses to membership in the separate sample group. Initially, 2 x 2 contigency tables were used to test for significant response differences on each of the twenty work needs rated. The 0.05 level of significance was chosen as the criteria for testing all hypotheses considered in this study. Thus, in using the 2 x 2 contingency tables with one degree of freedom if chi-square was greater than 3.84, the null hypotheses was rejected and a significant difference in responses between groups was assumed. Using this procedure, the following vocational needs were found to be significantly more important to males than females: advancement, [illegible], recognition, security, and social status. Activity, co-workers, independence, moral values, responsibility, and social service were found to be significantly more important to females than males.

Conclusions and Discussion

Based on the data obtained, the following conclusions seemed important:

1. Male and female prospective teachers-in-training agreed that ability utilization, achievement, creativity, social service, responsibility, and advancement were the most important vocational needs, as measured by the Minnesota Importance Questionnaire, to obtain in their future occupation.
2. Male teachers-in-training emphasized achievement, ability utilization, creativity, advancement and social service as the vocational needs on the Minnesota Importance Questionnaire which they see as being most important in their ideal job. Female teachers-in-training, however, see the Minnesota Importance Questionnaire vocational needs of ability utilization, achievement, social service, creativity, and responsibility as being most important in their future career.
3. The results obtained from this study did not enable the authors to accept or reject the null hypothesis as stated: There is no significant difference between male Stout State University prospective teachers and female Stout State University prospective teachers concerning vocational needs as measured by the Minnesota Importance Questionnaire. When twenty tests

were made, nine of the null hypotheses were accepted at the .05 level while eleven were rejected. Hence, slightly more than one-half of the tested hypotheses were rejected.

4. Male and female Stout State University prospective teachers do not differ significantly on the ability utilization variable of the Minnesota Importance Questionnaire.

5. Male and female Stout State University prospective teachers do not differ significantly on the achievement variable of the Minnesota Importance Questionnaire.

6. Male and female Stout State University prospective teachers do differ significantly on the activity variable of the Minnesota Importance Questionnaire. Females see this vocational need as being more important to their future occupation than do males.

7. Male and female Stout State University prospective teachers do differ significantly on the advancement variable of the Minnesota Importance Questionnaire. Males see this vocational need as being more important to their future occupation than do females.

8. Male and female Stout State University prospective teachers do differ significantly on the authority variable of the Minnesota Importance Questionnaire. Males see this vocational need as being more

important to their future occupations than do females.

9. Male and female Stout State University prospective teachers do not differ significantly on the company policies and practices variable of the Minnesota Importance Questionnaire.

10. Male and female Stout State University prospective teachers do not differ significantly on the compensation variable of the Minnesota Importance Questionnaire.

11. Male and female Stout State University prospective teachers do differ significantly on the co-worker variable of the Minnesota Importance Questionnaire. Females see this vocational need as being more important to their future occupations than do males.

12. Male and female Stout State University prospective teachers do not differ significantly on the creativity variable of the Minnesota Importance Questionnaire.

13. Male and female Stout State University prospective teachers do differ significantly on the independence variable of the Minnesota Importance Questionnaire. Females see this vocational need as being more important to their future occupations than do males.

14. Male and female Stout State University prospective teachers do differ significantly on the moral values variable of the Minnesota Importance Questionnaire.

Females see this vocational need as being more important to their future occupation than do males.

15. Male and female Stout State University prospective teachers do differ significantly on the recognition variable of the Minnesota Importance Questionnaire. Males see this need as being more important to their future occupations than do females.

16. Male and female Stout State University prospective teachers do differ significantly on the responsibility variable of the Minnesota Importance Questionnaire. Females see this vocational need as being more important to their future occupations than do males.

17. Male and female Stout State University prospective teachers do differ significantly on the security variable of the Minnesota Importance Questionnaire. Males see this vocational need as being more important to their future occupation than do females.

18. Male and female Stout State University prospective teachers do differ significantly on the social service variable of the Minnesota Importance Questionnaire. Females see this vocational need as being more important to their future occupations than do males.

19. Male and female Stout State University prospective teachers do differ significantly on the social [illegible] variable of the Minnesota Importance Questionnaire.

Males see this vocational need as being more important to their future occupations than do females.

20. Male and female Stout State University prospective teachers do not differ significantly on the supervision-human relations variable of the Minnesota Importance Questionnaire.

21. Male and female Stout State University prospective teachers do not differ significantly on the supervision-technical variable of the Minnesota Importance Questionnaire.

22. Male and female Stout State University prospective teachers do not differ significantly on the variety variable of the Minnesota Importance Questionnaire.

23. Male and female Stout State University prospective teachers do not differ significantly on the working conditions variable of the Minnesota Importance Questionnaire.

## RECOMMENDATIONS

Vocational research has shown that vocational [illegible] are determinants in vocational choice and vocational [illegible] faction. As Kuhlen pointed out, in certain situations [illegible] might be undesireable to employ individuals that demonstrate a particular pattern of needs.[1] It is, therefore, [illegible]

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[1]Kuhlen, loc. cit., p. 64.

that this study providing information regarding the vocational needs of teachers-in-training be used by the vocational guidance counselors, the higher educational instructional staff, and the prospective teachers-in-training themselves.

In addition to the above recommendation, several implications can be proposed for future investigation. First, research into the variables affecting responsiveness could be conducted. The motivating factors which determine a response or no response could be a fruitful area of investigation. Second, an even more comprehensive picture of the prospective teachers' work needs might be gained if a less structured instrument, designed to elicit more freedom of expression and latitude of response than the questionnaire employed in this study, were used with a similar sample group. Third, the researchers of this study feel that a follow up investigation would be appropriate.

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